Project:

Drop-Off Release Transmitter

Title:

User's Manual

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DOCUMENT CHANGE RECORD

Issue	Date	Item(s) Affected	Description
1	23.12.2010	-	Initial Issue
2	01.02.2011	Installation	Automatic installation of program and driver
3	31.03.2011	Battery Charger	Addition LCD Battery Charger

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1 Product Overview

The Drop-off Release Transmitter enables you to communicate with VECTRONIC drop-offs and receive UHF ID-tag numbers. Its functions are:

- while the release transmitter is connected to the PC via USB cable, it transfers drop-off telemetry data to the computer and sends release times and firmware to the drop-off. Communication is managed with the GPS PLUS Drop-Off Manager software
- radio-and-timer-controlled drop-off can be released on demand within a range of 500 m by sending the release command from the transmitter
- the release transmitter is able to receive the IDs of VECTRONIC UHF-tags used for the proximity sensor.

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2 The Release Transmitter

The release transmitter is switched on with the ⏻ button. It will switch off automatically 30 seconds after the last button has been pressed.

The release transmitter can be connected to a PC for configuration with an USB cable. The display will then show USB ⇔ PC. The keys will not respond while the transmitter is attached to a PC via USB. After 30 seconds, the backlight of the display will be switched off; after 5 minutes, the transmitter will be switched off. It can be switched on again by pressing the ⏻ button.

Figure 1: Left: Release Transmitter, right top: VECTRONIC UHF 2-Element Yagi Antenna, right: waterproof USB-connector with rubber cover as protection against dirt.

Note: Never use the transmitter without or with a wrong antenna! Use only the VECTRONIC 2-Element Yagi which came with the Release Transmitter unit or a suitable other one. Otherwise you may severely damage the transmitter.

Note: In the field, make sure the USB port is always protected by the rubber cover to avoid dirt entering the port.

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3 Quick guide to the keyboard

The keyboard is designed to give you easy access to the features of the transmitter. The keys will not respond if the transmitter is attached to a PC via USB.

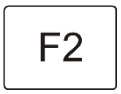
Press briefly to switch on the transmitter. The transmitter will automatically give a list of all registered drop-offs. Press this button at any point in the menus to reset the transmitter and return to the drop-off list.

Allows you to move up in the drop-off list or the menus

Allows you to move down in the drop-off list or the menus

Triggers the release of a radio drop-off

Opens the transmitter information menu showing battery voltage, hardware version, software version, and serial number of handheld



Activates the UHF ID-tag receiver

Exits the menu or ID receiver and cancels the fire command

Confirms the fire command

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4 Quick guide to the Release Transmitter

1. Charge the Eneloop™ batteries with the Sanyo USB battery charger and insert them into the transmitter (s. section 5)
2. Connect the Release Transmitter to the PC via USB cable (s. section 0)
3. Start the GPS PLUS Drop-Off Manager; it will automatically recognise the Release Transmitter.
4. Register the drop-offs on the transmitter. To do this, the drop-off first must be registered in the GPS PLUS Drop-Off Manager version you are using (refer to GPS PLUS Drop-Off Manager manual). Then you can register the drop-off on the transmitter.
5. You are now able to communicate with the drop-off and release it on demand if it is a radio drop-off.
6. To release a radio-drop off, refer to section 9.

5 Charging batteries and inserting them into the transmitter

Before you are able to use the Release Transmitter, the included Eneloop™ batteries need to be charged. For this, use the included Sanyo USB battery charger only (for further details see Sanyo manual page 18). You can charge two batteries at the same time. Recharging time is approximately 5 hours. Raise the adjuster and insert the batteries into the charger. Then connect the charger's USB plug to a USB port at your PC.

Note: Make sure that no other equipment is connected to any other USB port or the required power might be exceeded. Charging might be stopped, the computer might be damaged, or data might be lost.

While recharging, the LED charge indicator is flashing. When charging has been completed, the LED remains lit. Remove the USB connector from the USB port, then remove the batteries from the charger. They will be hot immediately after recharging. Repeat the process with the second pair of batteries. For storage, lower the adjuster.

Note: Do not use the charger for any other batteries than Eneloop™.

Open the transmitter by unscrewing the two screws on the back (see Figure 2, red arrows). Be careful not to damage the waterproof seal (see Figure 2, grey arrows). Carefully insert the batteries with the correct polarity (for details refer to picture in battery compartment and Figure 2).

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To remove batteries from the compartment, knock the transmitter against your hand and thus loosen the batteries. Do not insert objects (e.g. screw drivers) into the compartment to force the batteries out.

Figure 2: Back of Release Transmitter; red arrows indicate the screws for opening the battery hatch, grey arrow indicates the waterproof seal. Make sure the batteries are inserted with the correct polarity.

Battery voltage of the release transmitter must not fall under 4.0 Volt. At 4.05 Volt, the display will warn LowBat. for a few seconds and switch off the backlight. At a lower voltage, the transmitter cannot be switched on anymore. Please recharge batteries with the associated Sanyo battery charger only.

The rechargeable Eneloop™ batteries delivered with the transmitter do discharge very slowly. Do not to exchange them for other batteries, since these might lose voltage during storage and might not be able to provide enough power to release the collar on demand. However, if in urgent cases you need to exchange the batteries, and you do not have an additional set of Eneloop™ batteries, you can use High Power Alkaline batteries (Do not recharge these! Danger of explosion!), NiCd rechargeable batteries, or NiMH rechargeable batteries with current rating > 1A.

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6 Connecting the Transmitter to the PC

Easily connect the transmitter to a PC via USB cable. The transmitter is switched on automatically and the display will show USB ⇔ PC. Thirty seconds after the last communication between PC and transmitter took place, the display backlight will be switched off. After 5 minutes, the transmitter is switched off. It can be switched on again by pressing the ⏻ button.

If the transmitter is connected via USB, it is supplied exclusively by the USB port; the output power is limited to 2 mW.

The Release Transmitter is operated with the GPS PLUS Drop-Off Manager. If a transmitter is connected to the PC, it will be displayed in the upper left section of the program (“Devices”).

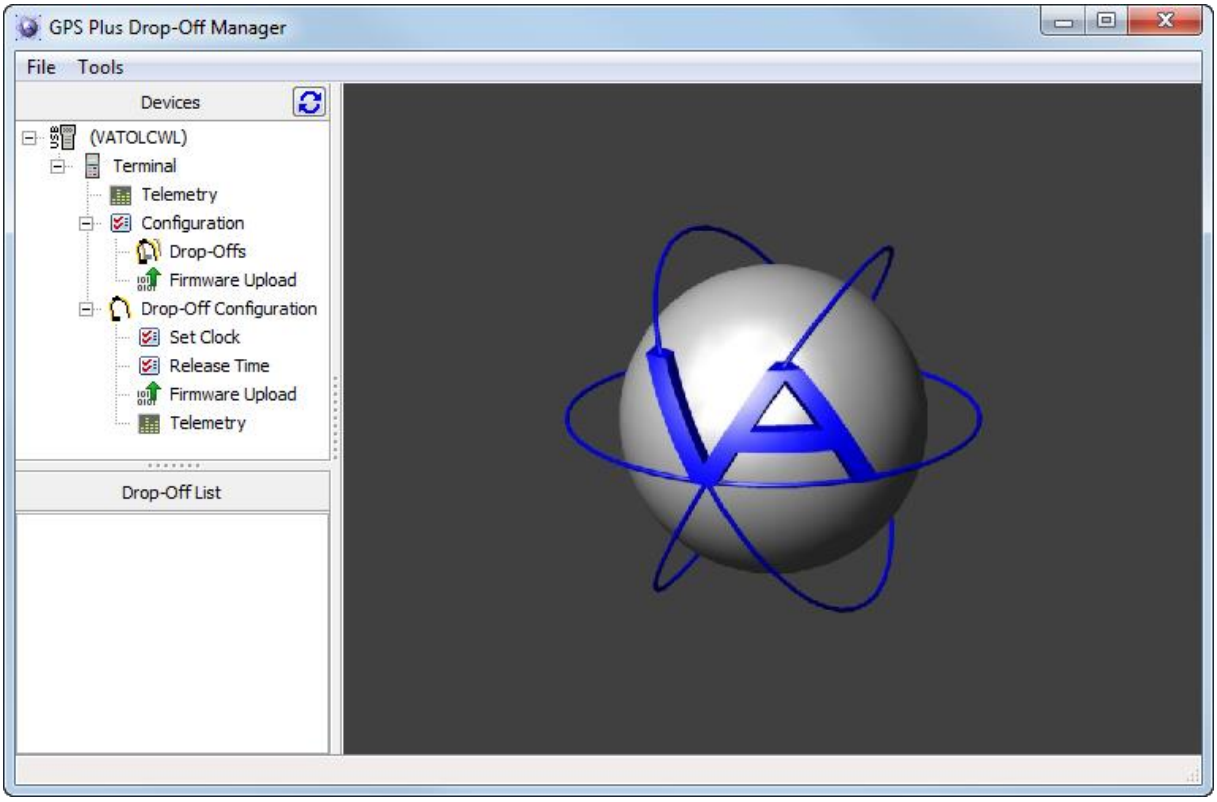

Figure 3: Opening window of the GPS Plus Drop Off Manager with release transmitter connected to PC

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For using the software, please refer to the GPS PLUS Drop-Off Manager manual. You need to connect the transmitter to a PC for the following tasks:

- to register a drop-off on the transmitter; this is necessary to enable communication with this drop-off
- to change configuration of a drop-off
- to upload new firmware to the drop-off

If you use the transmitter as interface between PC and drop-off, the drop-off needs to be within a few meters of the transmitter and you must be able to detach and attach the magnet to the drop-off.

7 Drop-off list

If you switch on the transmitter, it will automatically give a list of all drop-offs registered on the transmitter. The drop-off with the lowest number will be displayed first. Move upwards and downwards this list with the Up ▲+ and Down ▼− buttons.

8 Configuring drop-offs or upload new firmware

To configure a drop off, this is to change the release settings or to upload new firmware, you need to connected the transmitter to the PC and start the GPS PLUS Drop-Off Manager. For details please refer to the GPS PLUS Drop-Off Manager manual.

9 Releasing a radio drop-off

The main feature of the release transmitter is to release a radio-and-timer-controlled drop-off on demand. The maximum range for this is 500 m. If possible, release the drop-off while you can see the animal.

Note: Prior to preparing the drop-off release make sure the transmitter battery's voltage is higher than 4.05 Volt. Otherwise there might not be enough power to reach the drop-off. Ideally, the battery voltage would be close to 5.0 Volt.

Note: Connect the correct antenna to the device. A wrong or missing antenna can damage the device as the strong signal can't be transmitted but discharges internally!

Note: It is possible that the animal is startled when the collar is released and drops down. Avoid triggering the drop-off if the animal is in a situation where it could get hurt by erratic movements (e.g. on a cliff edge).

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To release a drop-off, switch on the transmitter. Scroll the drop-off list until you have found the ID of the drop-off you want to release. Press the FIRE button 5 seconds until Fire? is shown in the display. This is the last opportunity to abort the release. Press Exit/Cancel to abort. Press Enter/OK within 5 seconds to transmit the release command to the drop-off, otherwise the display will return to the ID list. If you press Enter/OK, the display will switch to Transm. …. The transmitter now sends the signal to the drop-off for 33 seconds. The only chance to abort the command in this stage is to press the ⏻ button, but it is possible that the drop-off has already received the command and releases anyway. After the command has reached the drop-off, it takes about 25 seconds to completely release the collar.

Note: There will be no confirmation from the drop-off if the signal was received and the drop-off triggered. If you are not sure whether the collar has been released, you can resend the release command.

10 The information menu

With F1, you can enter the information menu of the transmitter. If you press F1, the display will show Battery. Press Enter/OK to view the current battery voltage. Press Exit/Cancel to return to the menu. With the Up ▲+ and Down ▼− buttons, you can scroll between the topics:

Battery	Voltage of the transmitter battery
Hardware	Version of the transmitter hardware
Software	Version of the transmitter's software
SerialNo	Serial Number of the transmitter

While the battery voltage is necessary for you to know to ensure enough power for the drop-off release, the other three topics are only of interest for diagnostics if there are problems with the transmitter.

11 The UHF ID-tag receiver

The Release Transmitter can be used to check if VECTRONIC UHF ID-tags are in range. To do this, press F2. The display will switch to ID-Rec.. Press Enter/OK to start searching for UHF-tags. The display will switch to ID.. While the transmitter is receiving ID numbers of UHF-tags the dot will blink. The ID numbers of the received

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tags will be shown in the display, e.g. ID.65534. If more than one UHF-tag is in range, the ID numbers will be shown alternately. Press Exit/Cancel to leave the ID-reception.

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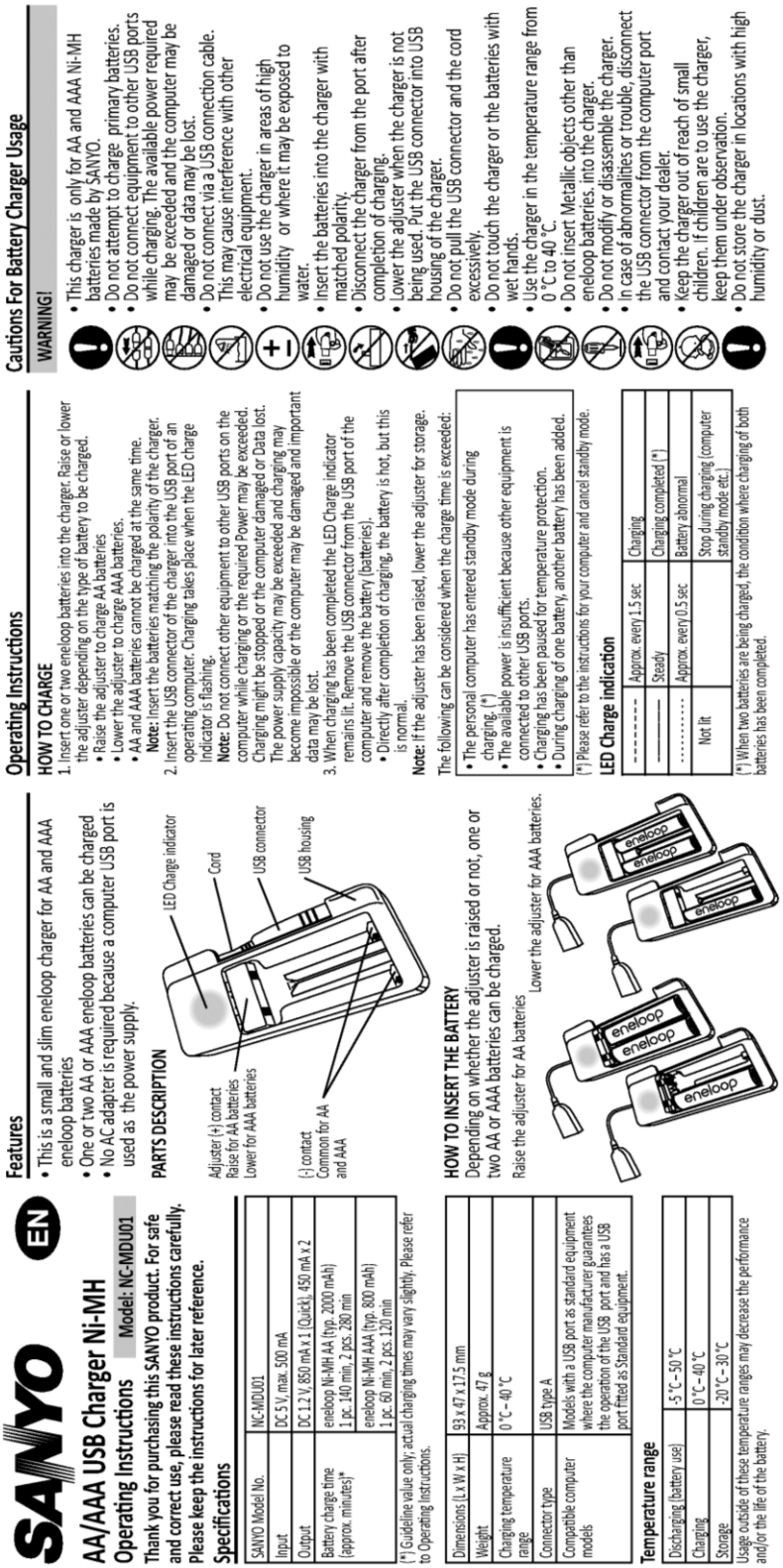
12 Operating instructions for Sanyo AA/AAA USB Charger



SANYO EN

AA/AAA USB Charger Ni-MH
Operating Instructions Model: NC-MDU01

Thank you for purchasing this SANYO product. For safe and correct use, please read these instructions carefully. Please keep the instructions for later reference.

Specifications

SANYO Model No.	NC-MDU01
Input	DC 5 V, max. 500 mA
Output	DC 1.2 V, 850 mA x 1 (Quick), 450 mA x 2
Battery charge time (approx. minutes)*	eneloop Ni-MH AA (typ. 2000 mAh) 1 pc. 140 min., 2 pcs. 280 min eneloop Ni-MH AAA (typ. 800 mAh) 1 pc. 60 min., 2 pcs. 120 min

(*) Guideline value only; actual charging times may vary slightly. Please refer to Operating Instructions.

Dimensions (L x W x H)	93 x 47 x 17.5 mm
Weight	Approx. 47 g
Charging temperature range	0 °C – 40 °C
Connector type	USB type A
Compatible computer models	Models with a USB port as standard equipment where the computer manufacturer guarantees the operation of the USB port and has a USB port fitted as standard equipment.

Temperature range

Discharging (battery use)	-5 °C – 50 °C
Charging	0 °C – 40 °C
Storage	-20 °C – 30 °C

Usage outside of these temperature ranges may decrease the performance and/or the life of the battery.

Features

- This is a small and slim eneloop charger for AA and AAA eneloop batteries
- One or two AA or AAA eneloop batteries can be charged
- No AC adapter is required because a computer USB port is used as the power supply.

PARTS DESCRIPTION

HOW TO INSERT THE BATTERY

Depending on whether the adjuster is raised or not, one or two AA or AAA batteries can be charged.

Raise the adjuster for AA batteries

Lower the adjuster for AAA batteries.

Operating Instructions

HOW TO CHARGE

1. Insert one or two eneloop batteries into the charger. Raise or lower the adjuster depending on the type of battery to be charged.
   - Raise the adjuster to charge AA batteries
   - Lower the adjuster to charge AAA batteries.
   - AA and AAA batteries cannot be charged at the same time.

   Note: Insert the batteries matching the polarity of the charger.
2. Insert the USB connector of the charger into the USB port of an operating computer. Charging takes place when the LED charge indicator is flashing.

   Note: Do not connect other equipment to other USB ports on the computer while charging or the required Power may be exceeded. Charging might be stopped or the computer damaged or Data lost. The power supply capacity may be exceeded and charging may become impossible or the computer may be damaged and important data may be lost.
3. When charging has been completed the LED Charge indicator remains lit. Remove the USB connector from the USB port of the computer and remove the battery (batteries).
   - Directly after completion of charging, the battery is hot, but this is normal.

Note: If the adjuster has been raised, lower the adjuster for storage.

The following can be considered when the charge time is exceeded:

- The personal computer has entered standby mode during charging. (*)
- The available power is insufficient because other equipment is connected to other USB ports.
- Charging has been paused for temperature protection.
- During charging of one battery, another battery has been added.

(*) Please refer to the instructions for your computer and cancel standby mode.

LED Charge indication

--------	Approx. every 1.5 sec.	Charging
————	Steady	Charging completed (*)
----------	Approx. every 0.5 sec.	Battery abnormal
Not lit		Stop during charging (computer standby mode etc.)

(*) When two batteries are being charged, the condition where charging of both batteries has been completed.

Cautions For Battery Charger Usage

WARNING!

- This charger is only for AA and AAA Ni-MH batteries made by SANYO.
- Do not attempt to charge primary batteries.
- Do not connect equipment to other USB ports while charging. The available power required may be exceeded and the computer may be damaged or data may be lost.
- Do not connect via a USB connection cable. This may cause interference with other electrical equipment.
- Do not use the charger in areas of high humidity or where it may be exposed to water.
- Insert the batteries into the charger with matched polarity.
- Disconnect the charger from the port after completion of charging.
- Lower the adjuster when the charger is not being used. Put the USB connector into USB housing of the charger.
- Do not pull the USB connector and the cord excessively.
- Do not touch the charger or the batteries with wet hands.
- Use the charger in the temperature range from 0 °C to 40 °C.
- Do not insert Metallic objects other than eneloop batteries. into the charger.
- Do not modify or disassemble the charger.
- In case of abnormalities or trouble, disconnect the USB connector from the computer port and contact your dealer.
- Keep the charger out of reach of small children. If children are to use the charger, keep them under observation.
- Do not store the charger in locations with high humidity or dust.

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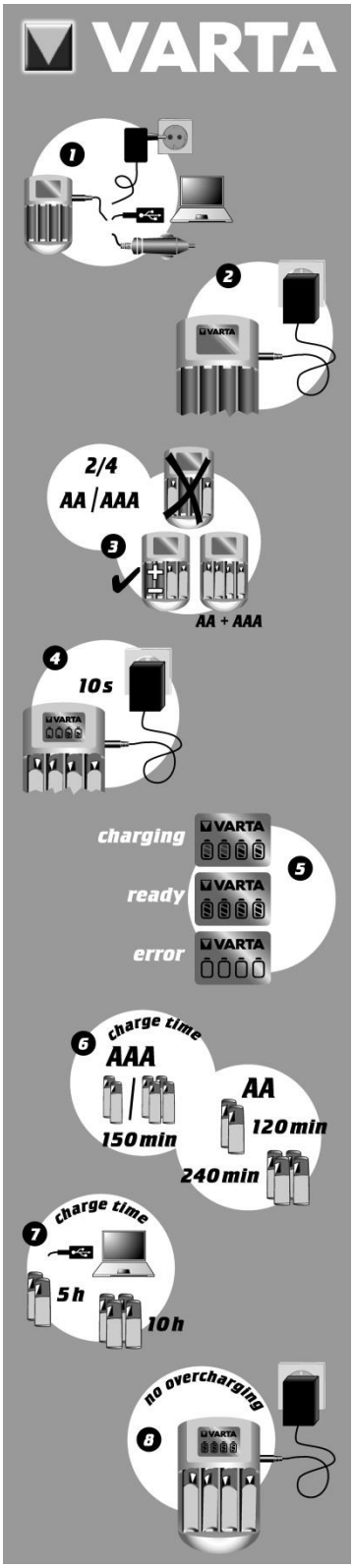
13 Operating instructions for VARTA LCD Charger 57070



❶ Connect the charger with one of the three possible power sources:

a) AC 100-240V by power adaptor
b) DC 12V by car cord
c) DC 5V (500mA) by USB cord

❷ Power on but no batteries in the charger: VARTA logo as power indicator.

❸ Insert either 2 or 4 AA or AAA rechargeable batteries into the battery compartment. The batteries must be loaded in pairs and should therefore have similar charge status. A mix of AA and AAA batteries is possible. Make sure that the batteries are inserted according to the correct polarity and that each battery is touching both contacts.

❹ The actual charging level is indicated by up to three bars per battery symbol. It will only take 10 seconds to do this power check. The result will be displayed on the blue LCD.

❺ After starting the charging, a new bar fixes its position at the filling of a further 1/3 capacity. Indication works as follows

a) rolling bar(s) = charging
b) all three bars fixed = charging finished
c) empty battery symbol = no charge (error)

❻ The charging time is about 120mins (2 AA cells), 240mins (4 AA cells) and 150mins (2 or 4 AAA cells) and depends on the initial capacity and charging conditions.

❼ Charging time with USB-In function is around 5 hours for 2 and around 10 hours for 4 batteries.

❽ The automatic charging control function prevents the batteries from being overcharged. The battery performance is maintained by trickle charge.

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This battery charger is designed for use anywhere in the world (100-240V, 50-60Hz). If necessary, you may however need an adapter for the respective country.

Safety

This battery charger is intended for use only with rechargeable batteries. Charging other types of batteries (alkaline, RAM, zinc-carbon) may cause the cells to burst and in the worst case result in injuries. The charger is equipped with a safety timer control, a delta V cut-off function and a temperature control function. Do not attempt to recharge any corroded, damaged or leaking batteries.

Protect our environment

Further information on battery disposal is available at www.varta-consumer.com.

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14 Manual installation of the Release Transmitter driver

In some cases, the driver for the release transmitter will not be installed automatically. If this is the case, follow these steps for Windows XP:

1. Insert the VECTRONIC CD into your PC.
2. Connect the Release transmitter to your PC via an USB cable. Your PC will automatically try to install the device and the Found New Hardware Wizard will open:

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

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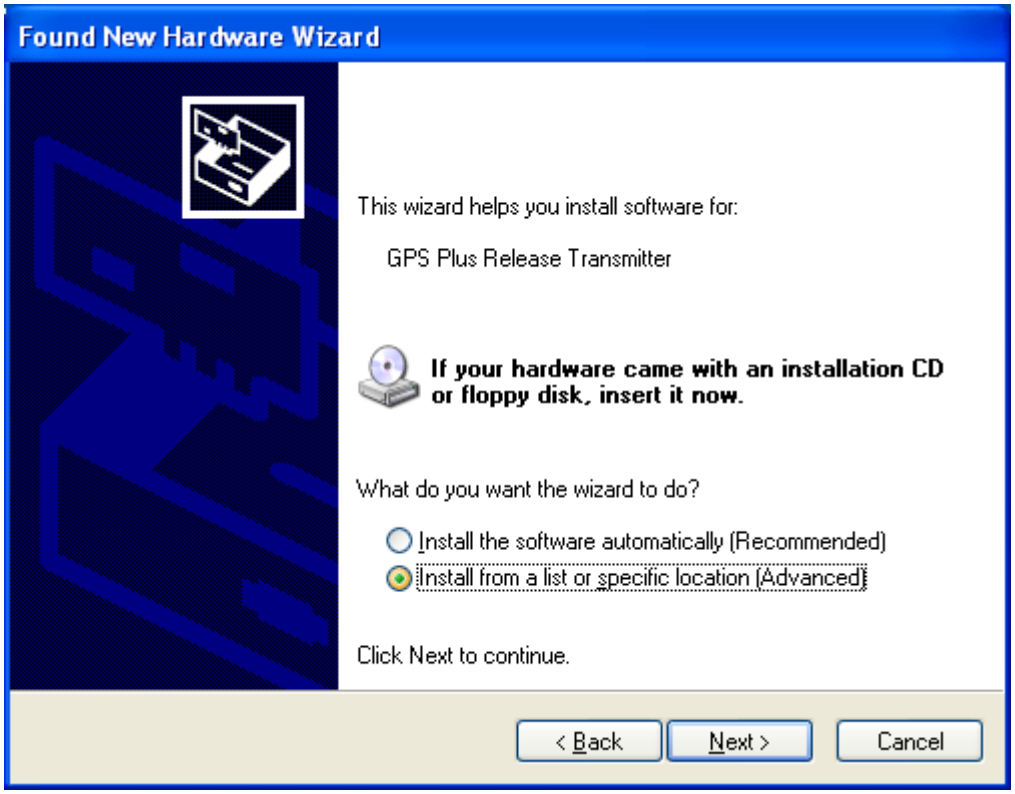
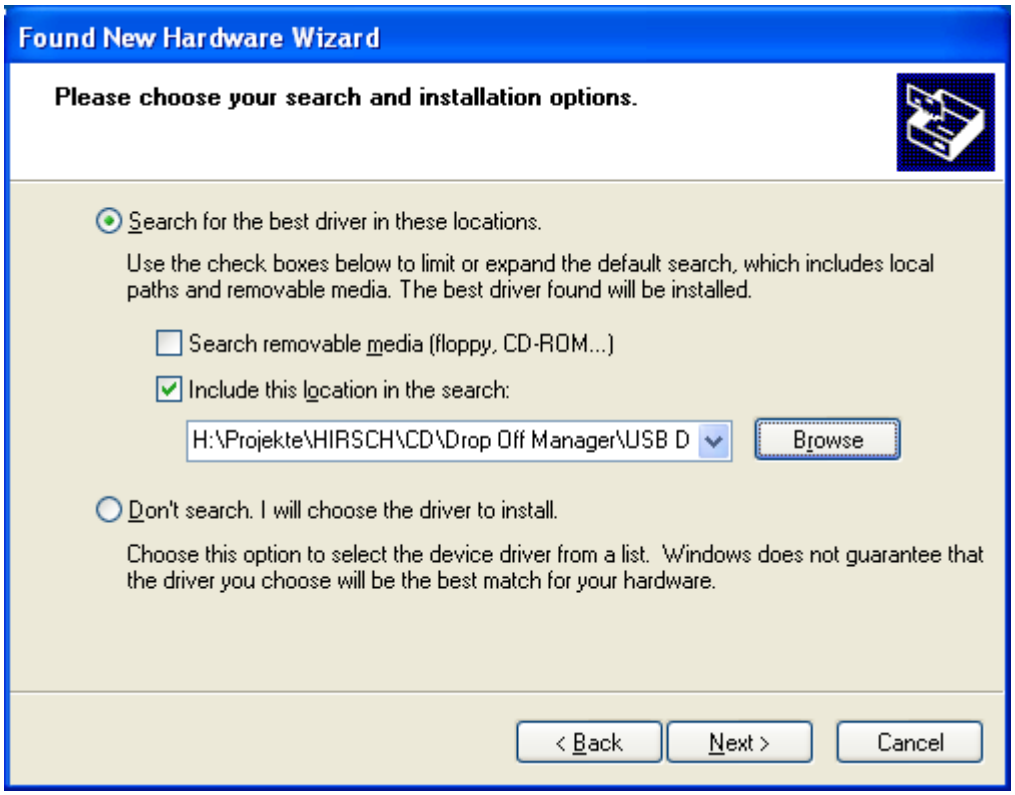
3. Select “No, not this time” and click on “Next”.


Found New Hardware Wizard
This wizard helps you install software for:
GPS Plus Release Transmitter
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

4. Select “Install from a list or specific location”


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
H:\Projekte\HIRSCH\CD\Drop Off Manager\USB D
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

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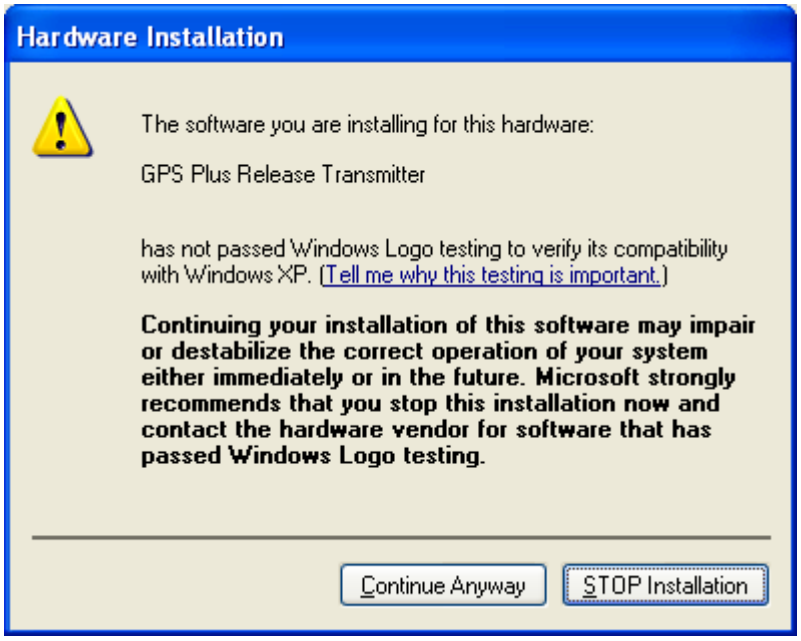
5. Select “Search removeable media”. Go to the VECTRONIC CD and select the folder “Drop Off Manager \ USB Driver for Release Transmitter”.


Hardware Installation
The software you are installing for this hardware:
GPS Plus Release Transmitter
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

6. Select continue anyway. The driver will now be installed. After the driver has been installed successfully, switch on the release transmitter by pressing the button. You can now use the release transmitter.

Follow these steps for *Windows Vista / 7*:

1. Insert the VECTRONIC CD into your PC.
2. Connect the Release transmitter to your PC via an USB cable. Your PC will automatically try to install the device.
3. A warning will appear reporting that the device was not installed correctly. Open the Device Manager: Go to “Start” ⇨ “Control Panel” ⇨ “Hardware and Sound” ⇨ “Devices and Printers: Device Manager”.

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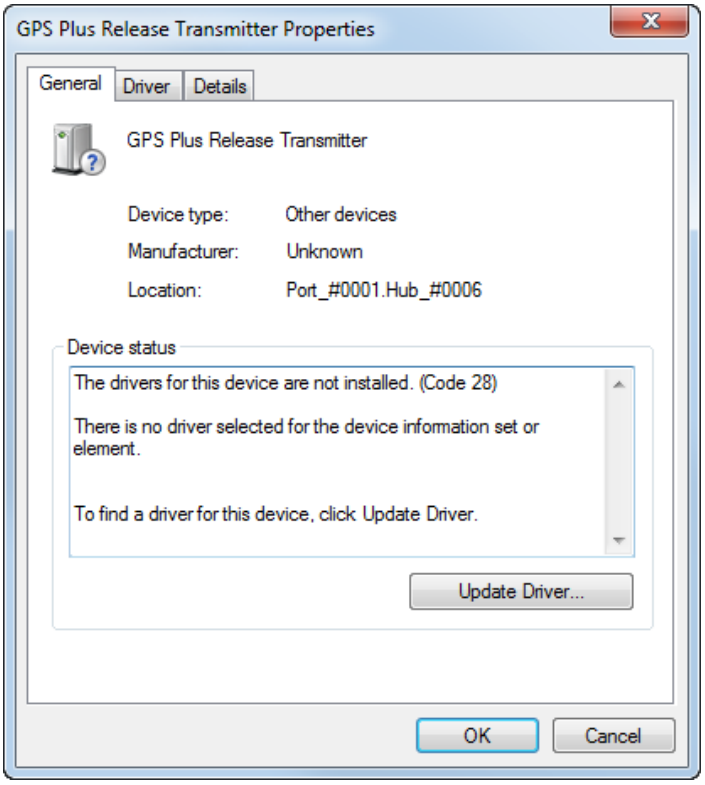
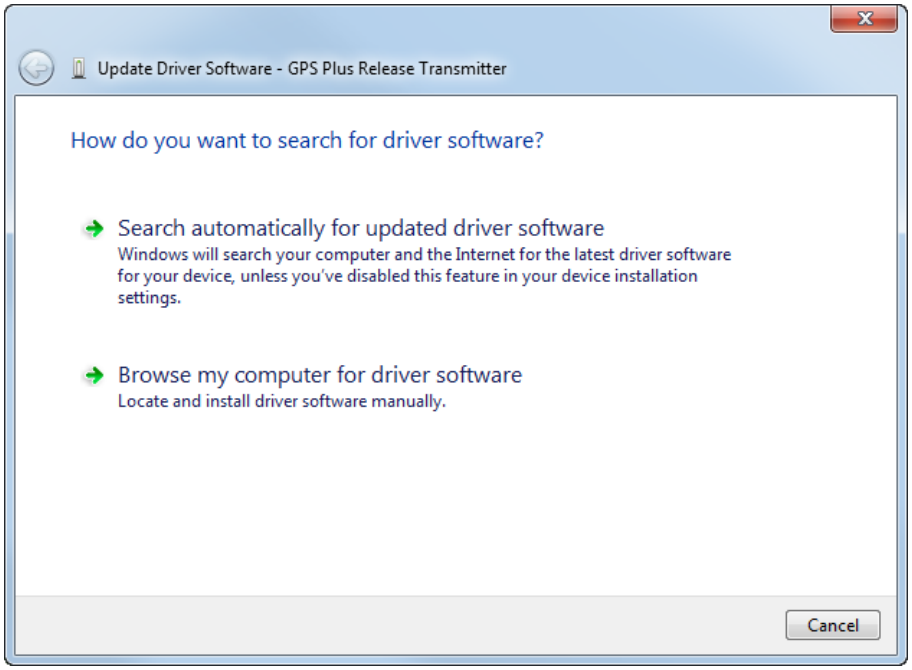
4. Open the node “Other Devices” and double-click on GPS Plus Release Transmitter.



5. Click on “Update Driver”.


Update Driver Software - GPS Plus Release Transmitter
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

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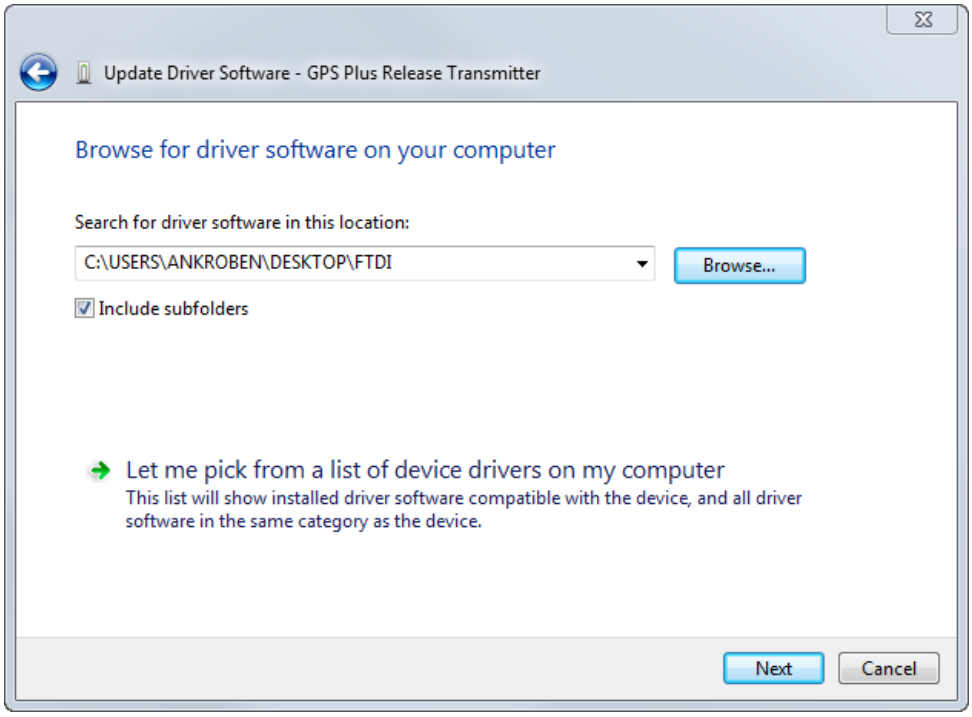
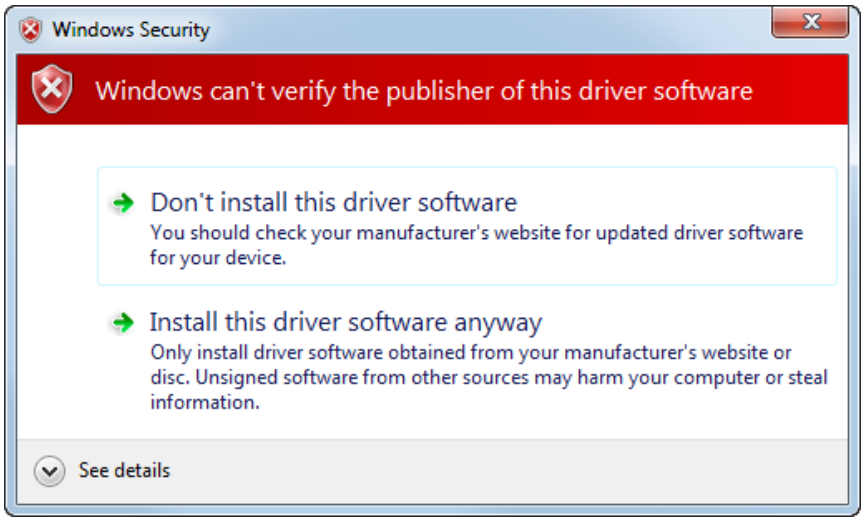
6. Select “Browse my computer for driver software”.


Update Driver Software - GPS Plus Release Transmitter
Browse for driver software on your computer
Search for driver software in this location:
C:\USERS\ANKROBEN\DESKTOP\FTDI
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

7. Browse on the VECTRONIC CD for the folder “Drop Off Manager \ USB Driver for Release Transmitter” and click “Next”.


Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

8. Windows will warn you that it cannot verify the publisher of this driver software. Click on “Install this driver software anyway”. Windows will now install the driver software.
9. After the driver has been installed successfully, switch on the release transmitter by pressing the button. You can now use the release transmitter.

VECTRONIC Aerospace

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